



Resolute Bay Land Farm Treatment Facility Spill Contingency Plan

**Prepared by
Transport Canada**

January 2012

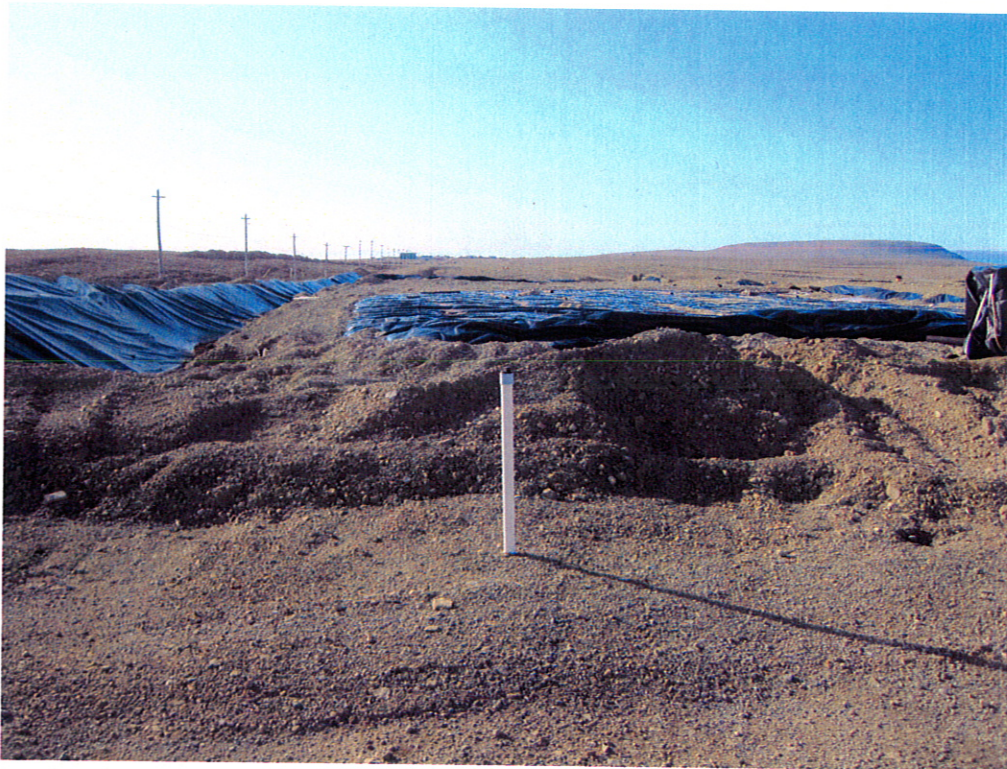


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Resolute Bay Land Farm Spill Contingency Plan

Introduction

This spill contingency plan has been developed based on the Nunavut Water Board License requirements Section H Part 1 – 6 for the Land Farm at the Resolute Bay Airport, Nunavut. The plan itemizes Section H Part 1 in the following narrative. The spill response plan also has been developed based on the following documents and guidelines attached for ease of reference and will accompany the spill response plan as a working document on site at all times:

- 1) *Environmental Protection Act*, Spill Contingency Planning and Reporting Regulations R-068-93, Government of Northwest Territories, 1990.
- 2) Contingency Planning and Spill Reporting in Nunavut, A Guide to the New Regulations
- 3) Guidelines for Spill Contingency Planning, Water Resources Division Indian and Northern Affairs Canada, 2007.
- 4) NT-NU Spill Report Form

There is no storage of any petroleum products or hazardous materials at this site. The Spill Contingency Plan will focus on heavy equipment working at the site and delivering contaminated soil to the facility or equipment used during tilling/fertilizing and maintaining the site. Heavy equipment may include a backhoe and dump trucks. Heavy equipment operators are required to have their equipment properly maintained without any leaks. No refuelling of equipment is allowed on site. Operators are required to have 1 (one) 50 gallon spill kit with them at all times while on site. Operators will also have the spill plan containing contacts and procedures for emergencies such as hospitals, fire department, police and territorial governmental department; environmental spills **24-hour reporting phone number (867) 920-8130**. Should a release of fuel from the equipment occur, the contractor is required to make use of the 50 gallon spill kit on site. All spills are required to be reported regardless of volume to the Spill Inspector at (867) 975-4295.

1) Project Details

i) Company Details

Transport Canada is applying for a water license to the Nunavut Water Board to operate the Land Farm at the Resolute Bay Airport, Nunavut. Contact information is as follows:

Transport Canada
Prairie and Northern Region
Dale Kirkland, Manager Environmental Affairs
1100, 9700 Jasper Avenue
Edmonton, Alberta T5J 4E6
(780) 495-6046

24-Hour Spill Reporting:	(867) 920-8130
INAC's Spill Inspector:	(867) 975-4295
GN Airports	(867) 252-3923
Fire Department:	(867) 252-3923
RCMP Detachment:	(867) 252-0123

ii) **Effective Date of Plan**

Effective date for of spill contingency plan is January 20, 2012.

iii) **Last Revisions to Plan**

Last revisions to the spill contingency plan is January 20, 2012

iv) **Distribution of Plan**

Distribution of the plan has been sent to NWB for distribution, review and comments to other federal, territorial governments.

v) **Purpose and Scope of Plan**

Transport Canada constructed 2 Land Farms in 2001/02 to remediate soil from the decommissioned Fire Training Area (FTA). Approximately 5800m³ of petroleum hydrocarbon contaminated soil was placed in the 2 Land Farms. The purpose of this plan is to outline response actions for potential spills of appropriate sizes including worst case scenario. The plan identifies key responsibilities in the event of a spill, as well as equipment and additional options available to respond to a spill. As previously outlined, no fuel storage tanks and hazardous materials are stored on site. No refuelling equipment is allowed on site. The scope of the plan, therefore, addresses the equipment on site potentially releasing fuel. This includes a backhoe and dump truck. The source of potential spills would result from a piece of equipment leaking or tipping over. A second source of spilling is from contaminated soil spilling over outside the Land Farm from a dump truck.

vi) **Environmental Policy**

As a Federal Department, Transport Canada must adhere to all federal legislation and territorial requirements.

vii) **Project Description**

The maintenance will take place once per year consisting of mechanically turn the soil in both cells. Tilling will be completed using an excavator with a toothless bucket. The soil will be turned over, broken up and mixed to maximize bio-degradation. Once the tilling of the soil is completed, twelve (12) composite soil samples will be obtained from the Land Farm measuring 80m X 30m and twelve (12) composite soil samples from the Land Farm measuring 70m X 40m and sent to a lab for analysis. Water samples from each of the three (3) monitoring wells will be obtained and submitted to a certified laboratory for analysis. Fertilizer will be added to the Land Farm cells in the appropriate amounts as recommended by the manufacturer to achieve the target ratio for the specific volume of soil in the Land Farms to speed bio-degradation. The fertilizer used will have a content consisting of a carbon:nitrogen:phosphorus (C:N:P) ratio between 100:10:1 to 100:1:0.5.

viii) **Site Description**

Prior to July 1, 1995 Resolute Bay Airport was owned by the Government of Canada and operated by the Quebec Region of the Department of Transport. From July 1, 1995 until April 1, 1999 the airport was owned by the Government of Northwest Territories (GNWT) and operated by the Arctic Airports Division of the Department of Transportation. Since April 1, 1999 the airport has been owned by the Government of Nunavut and operated by the Nunavut Airports Division of the Nunavut Department of Community Government, Housing and Transportation.

As a condition of the Arctic A Airport transfer agreement (July 1995) between GNWT and Transport Canada (TC), the environmental issues, which existed prior to the airport transfer, are to be remediated as well as any items identified by the GNWT within six years of the transfer date. Works identified under this document address some of the issues identified in the transfer agreement as well as post transfer issues. Transport Canada is obligated to remediate all hazardous substances that are the department's responsibility that do not comply with the applicable environmental laws.

Transport Canada constructed 2 Land Farms in 2001/02 to remediate soil from the decommissioned Fire Training Area (FTA). Approximately 5800m³ of petroleum hydrocarbon contaminated soil was placed in the 2 Land Farms.

The Land Farms are located at the Resolute Bay Airport 74 degrees 44' 56.11"N 95 degrees 02' 03.71"W. The 2 Land Farms are approximately 70m X 40m and 80m X 30m. The construction of the Land Farms were initiated and completed in 2001/02.

The nearest building is the Airport Terminal Building (ATB) approximately 2.6 km to the south. The nearest water body is the Arctic Ocean located approximately 1.4 km east of the Land Farms. The topography of the site is generally flat and 171 feet above sea level. The area surrounding the airport (as indicated by the topographic map) has a gentle slope to the west toward the ocean. The map scale is 1:25,000. Please see Annex I for location/contour map.

The Land Farm is located in a developed area at the Resolute Bay airport. Therefore, it does not impact communities, traditional use areas (hunting and trapping camps), sensitive areas, parks, game preserves, resource harvesting areas, fish spawning areas, waterfowl habitat, animal migration routes, beaches, archaeological and historic sites, public or private water supplies.

ix) **List of Hazardous Material on Site**

No hazardous materials are stored on site.

x) **Existing Preventative Measures (Secondary Containment /Fuel Handling)**

No hazardous materials are on site and no fuel storage tanks on site. In addition, no refuelling is allowed on site. Therefore, no secondary containment and fuel handling preventative measures are required.

xi) Additional Copies – How to Obtain

Several copies of the plan are kept on-site with the contractor and the Transport Canada Project Officer while on site.

Contact Transport Canada at:

Project Manager
Transport Canada
Prairie and Northern Region
Darryl Pederson, Superintendent Contaminated Sites
1100, 9700 Jasper Avenue
Edmonton, Alberta T5J 4E6
(780) 495-6046

xii) Process for Staff Response to Media and Public

The Federal Government process for enquiries is to contact Transport Canada Communications at:

Glyniss Hutchings
Communications
Transport Canada
344 Edmonton Street
Winnipeg, Manitoba
R3C 0P6
(204) 984-2256

2) Action Plan

Potential Spill Size/Impacts/Procedures/Reporting/Restoration

Potential spill sizes would likely not exceed 50 gallons of diesel fuel. This is based on the size of fuel tanks in a dump truck or a rubber tire backhoe. The potential of a piece of equipment tipping over would be the source of the fuel. Should this occur inside the Land Farm, the spill would be contained in the Land Farm. If the spill occurs outside the Land Farm, the area would be small due to the limited amount of fuel stored in the equipment.

The procedure for initial action is to ensure the safety of the operator and safe extraction and remove all source of ignition. Once this is complete, the equipment will need to be assessed if fuel is leaking and take appropriate action to prevent and stop all fuel leaking. Once this is completed the spill can be assessed and the spill response kit may be used to absorb any free product. If fuel entered into the soil, this may be removed and placed into the Land Farm. The contractor on site will be required to enact and respond to the spill. If the spill kit absorbent pad/socks are used, they may be placed back into the spill kit container for later disposal at a licensed facility in Resolute Bay or shipped outside of NU if required.

The second form of spill may result due to contaminated soil spilled outside the Land Farm. In the event of a spill of contaminated soil, the soil will be collected and placed into the Land Farm. In the event of a spill, the following procedures should be considered:

- a. First consider and then remove or minimize any hazards to human life, health, safety or the environment.
- b. Take necessary steps to initially contain or prevent the spread of the spill.
- c. Try to identify and stop the source of the spill or leak.
- d. Collect liquids through the use of such equipment as absorbent pads.
- e. Immediately, collect and transport any contaminated soil resulting from the spill to the Land Farm for treatment.
- f. Send for help if required.
- g. Report the spill to the INAC Spill Inspector and complete the NT-NU Spill Report Form (attached).
- h. Complete the collection and disposal of contaminated materials as per direction from the regulatory agencies and applicable regulations.

Spill reporting consists of completing the NT-NU Spill Report form and submitting it to Government of Nunavut. Reporting should also consist of contacting the INAC's Manager of Field Operations pursuant to Schedule B of the Spill Contingency Planning and Reporting Regulations at **(867) 975-4295 or by fax at (867) 979-6445**. Spill reporting will be the responsibility of the contractor working on site.

The facility has monitoring wells to identify if there is any contamination leaking from the facility. The wells are tested once per year at a minimum. If fuel is identified in a well the following steps will be implemented:

- i) Sample the well and identify the contamination from a certified lab

- ii) Identify the location where the potential contamination is originating
- iii) The likely location will be from the Land Farm, therefore, limit the search to the area nearest to the monitoring well
- iv) Sample soil outside the facility to identify the direction of the source of contamination
- v) Inspect the liner for any rips and tears
- vi) Remove the contaminate soil from the Land Farm up gradient from the well. The soil can be placed further back in the Land Farm or if required place in the adjacent Land Farm. Inspect the liner for any rips and tears. Continue until the source can be identified. In the event of a tear in the liner, a proper weld/patch will be completed according to the manufacture specifications.
- vii) If contaminated soil is identified outside the facility, remove and place into the Land Farm and backfill the excavation with clean fill material.
- viii) Continue to sample monitoring wells 2-3 times per year to ensure the source of contamination has been eliminated

If the sump area is full of water and is required to be removed due to a wet season, the following steps are in place:

- i) Test the water to ensure the water may be discharged as per the requirements in the water license issued by NWB
- ii) If the water does not meet the required discharge levels the water will need to be treated with in a oil water separator. The system will operate to treat the water prior to discharge. The water will be treated then sampled and sent to a certified lab to ensure it meets the discharge requirements under the water license. Only if it meets this requirement may it be discharged.
- iii) If an oil water separator is not sufficient to treat the water, the water will be pumped into 205L drums and sent to a certified facility to treat the contaminated water.

3) Resource Inventory

A 50-gallon spill kit will be on site at a designated location adjacent to the work area. The 50 – gallon universal sorbent spill kit is an appropriate size due to the volumes of fuel in the equipment. The contents of the spill kit include:

- a. 10 socks
- b. 100 pads
- c. 8 pillows
- d. 1 drain cover
- e. 1 caution tape

- f. 2 pairs nitrile gloves
- g. 2 pairs safety goggles
- h. 2 protective coveralls
- i. 10 disposable bags
- j. 1 instruction book

In addition, earth moving equipment located at the site may be required to clean the small spill such as:

- 1) Small backhoe
- 2) Dump truck

4) Training Program

All individuals entering the site are required to participate in an orientation session. The session includes responding to a spill and the steps involved including proper use of the spill kit, contact information and how to fill out the proper spill report documents. During the session, all locations of the spill plan and spill kits are provided and a copy of the spill plan will remain with the contractor and operators. All contractors are required to have basic first aid training as well as WHIMS training prior to working on site.

Annex I

**NT-NU Spill Report
Contour Location Map
Engineer Site Drawing**



Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

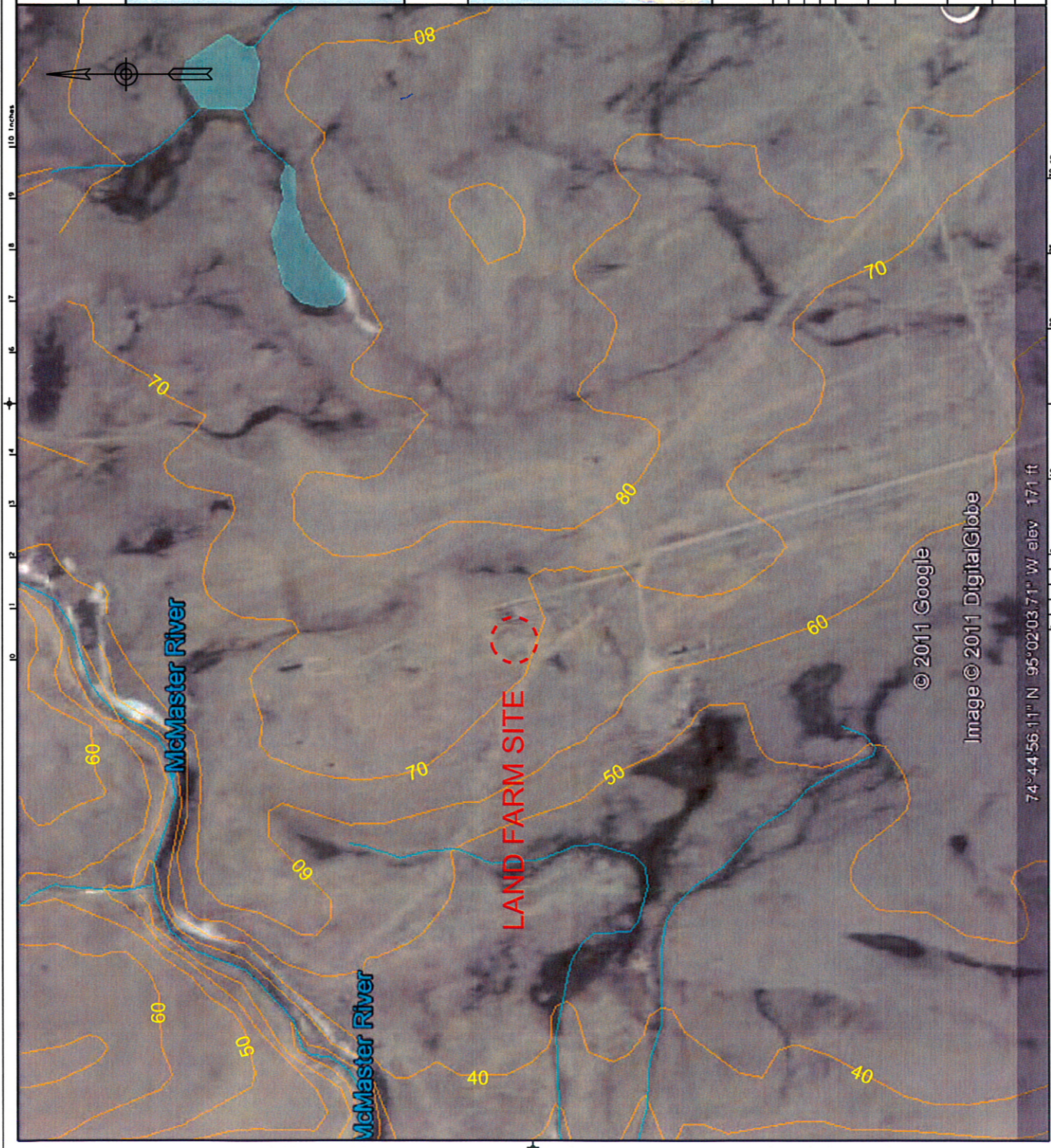
TEL: (867) 920-8130

FAX: (867) 873-6924

EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR		REPORT TIME		<input type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # TO THE ORIGINAL SPILL REPORT	REPORT NUMBER	
	B OCCURRENCE DATE: MONTH – DAY – YEAR		OCCURRENCE TIME				
C	LAND USE PERMIT NUMBER (IF APPLICABLE)			WATER LICENCE NUMBER (IF APPLICABLE)			
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM THE NAMED LOCATION				REGION <input type="checkbox"/> NWT <input type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR		
E	LATITUDE DEGREES MINUTES SECONDS			LONGITUDE DEGREES MINUTES SECONDS			
F	RESPONSIBLE PARTY OR VESSEL NAME		RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION				
G	ANY CONTRACTOR INVOLVED		CONTRACTOR ADDRESS OR OFFICE LOCATION				
H	PRODUCT SPILLED		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES			U.N. NUMBER	
	SECOND PRODUCT SPILLED (IF APPLICABLE)		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES			U.N. NUMBER	
I	SPILL SOURCE		SPILL CAUSE		AREA OF CONTAMINATION IN SQUARE METRES		
J	FACTORS AFFECTING SPILL OR RECOVERY		DESCRIBE ANY ASSISTANCE REQUIRED		HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT		
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS						
L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE		
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE		
REPORT LINE USE ONLY							
N	RECEIVED AT SPILL LINE BY	POSITION Station operator	EMPLOYER	LOCATION CALLED Yellowknife, NT	REPORT LINE NUMBER (867) 920-8130		
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED		
AGENCY	CONTACT NAME		CONTACT TIME	REMARKS			
LEAD AGENCY							
FIRST SUPPORT AGENCY							
SECOND SUPPORT AGENCY							
THIRD SUPPORT AGENCY							



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74°44'56.11" N 95°02'03.71" W elev 171 ft



KEY MAP (Not To Scale)
 NTDB 1:50,000 Map Sheet 58F11, 58F12, 58F14, 58F15



SITE LOCATION (Not To Scale)
 Project Site Geographical Location: 74° 44' 33.27" N, 95° 12' 27" W
 NTDB 1:50,000 Map Sheet 58F11, 58F12
 Contour Interval: 10 m

Date	Revision	By
11/10/2009		
Scale	0 100 200 300 400 m	
1:10,000		

Site
 Title

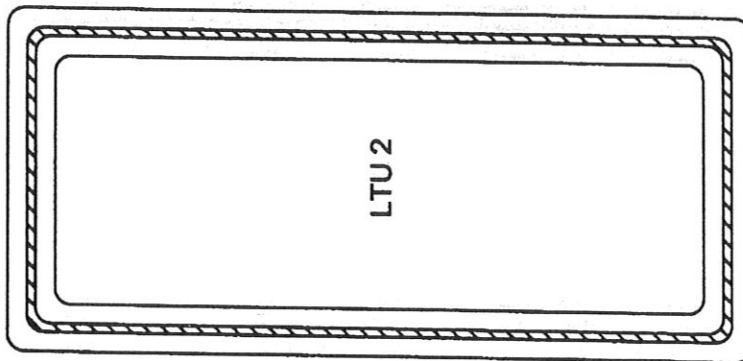
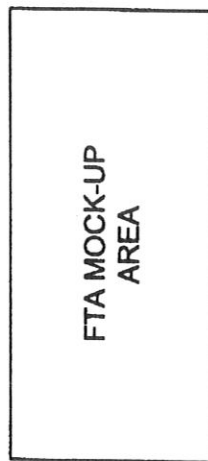
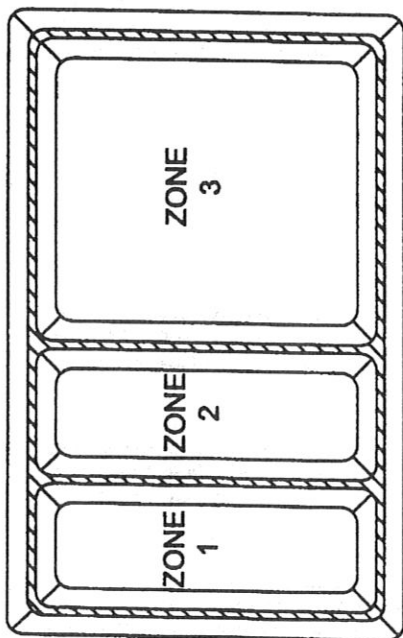
RESOLUTE BAY AIRPORT, NU			
LAND FARM SITE			
SITE PLAN			
Date	March 25, 2011	Project No.	
Drawn By	Checked By	Sheet	1 of 1
L.C.			

OFFICE OF REGIONAL MANAGER,
 PROFESSIONAL AND TECHNICAL SERVICES



NAV CAN TOWER

LTU 1



GRAVEL ROAD

GRAVEL ROAD LEADING TO METAL DUMP

No.	ED / MM / YYYY	DESCRIPTION	BY
ENG-TECH CONSULTING LTD.			
#8 - 854 Marlon Street Winnipeg, MB R2J 0K4 Phone: (204) 233-1884 Fax: (204) 233-1576			
ENG. STAMP			
Certificate of Authorization ENG-TECH Consulting Limited No. 2478 Expiry: April 30, 2008			
CLIENT: TRANSPORT CANADA			
PROJECT: RESOLUTE BAY FTA REMEDIAL WORK RESOLUTE BAY, NUNAVUT			
DWG DESCRIPTION: LTU LOCATIONS			
SCALE: NTS			
DRAWN BY: KWJ		DATE: FEBRUARY 2004	
FILE NO.: 02-117-06		CLIENT DWG NO.: 02-117-06	
ENG-TECH DWG NO.: 3		REV.: 1	